WHAT IS CLAIMED IS:

1. A waterproof connector connected to a cable which comprises a core wire and a shield braid and has, at its end, a shield portion formed by using the shield braid and an exposed part of the core wire, the waterproof connector comprising:

an insert assembly attached to the end of the cable and including a connector element connected to the exposed part of the core wire and a cylindrical spacer having one end fitted over the shield portion and another end fitted over the connector element;

a conductive cylindrical barrel fitted to an outside of the insert assembly and electrically connected to the shield portion, the cylindrical barrel having a first shoulder portion engaged with the insert assembly in an axial direction thereof; and

a ground nut engaged with the cable in the axial direction and screw-engaged with the cylindrical barrel.

2. The waterproof connector according to claim 1, wherein the insert assembly further comprises a shield sleeve fitted to the shield portion, the cylindrical barrel is fitted to the outside of each of the cylindrical spacer and the shield sleeve.

3. The waterproof connector according to claim 2, wherein the cylindrical barrel has a second shoulder portion engaged with the shield sleeve in the axial direction.

4. The waterproof connector according to claim 3, further comprising an interposing member interposed between the shield sleeve and the ground nut in the axial direction.

5. The waterproof connector according to claim 4, wherein the interposing member is brought into press contact with the cable and the

cylindrical barrel throughout an entire circumference of the cable.

6. The waterproof connector according to claim 4, wherein the interposing member comprises a bushing pressed by the ground nut to be brought into press contact with the cable in a radial direction thereof throughout an entire circumference of the cable and to brought into press contact with an axial end of the cylindrical barrel.

7. The waterproof connector according to claim 4, wherein the interposing member comprises a cable clamp pressed by the ground nut to clamp the cable in a radial direction thereof.

8. The waterproof connector according to claim 1, further comprising a coupling nut assembly fitted to the outside of the cylindrical barrel and rotatable with respect to the cylindrical barrel in a state where axial movement relative to the cylindrical barrel is inhibited.

9. A method of connecting a waterproof connector to a cable which comprises a core wire and a shield braid, the method comprising:

folding back an end portion of the shield braid outwardly to form a folded braid;

wounding a shield tape on the folded braid to form a shield portion;

fitting a connector element and a part of the shield portion into opposite ends of a cylindrical spacer, respectively;

press-fitting the other part of the shield portion into a shield sleeve thereby forming an insert assembly fixed to the cable;

inserting the insert assembly into a housing; and

connecting the housing to the cable by the use of a ground nut fitting over the cable.

10. The method according to claim 9, further comprising interposing an interposing member between the shield sleeve and the ground nut in an axial direction thereof.

11. The method according to claim 10, wherein the connecting step comprises pressing the interposing member in the axial direction by the ground nut to make the interposing member be brought in press contact with the shield sleeve and the cable.